Coastal plain streams are often utilized by anadromous fish species, which are fish such as striped bass (*Morone saxatilis*), shad (*Alosa* spp.), and sturgeon (*Acipenser* spp.) that spend their adult lives in the ocean but return to freshwater habitats to reproduce. Spawning habitats of anadromous species are typically located upstream of tidal influence and saltwater intrusion. Spawning conditions are rather specific for each species depending on water velocity, water depth, bottom composition, temperature, pH, turbidity, and water hardness. Telemetry data shows that, although striped bass may be present year-round within the Trent River; no striped bass spawning occurs in the Trent River or other project area streams (Brad Hammers, NCWRC, personal communication). No big shad runs are recorded for any of the project area streams (Brad Hammers, NCWRC, personal communication), although American shad (*Alosa sapidissima*) and alewife (*A. pseudoharengus*) have been documented in the Trent, White Oak and New Rivers; hickory shad (*A. mediocris*) and blueback herring (*A. aestivalis*) have been documented from the Trent River (Menhinick 1991). Neither Atlantic sturgeon (*Acipenser oxyrhychus*) nor shortnose sturgeon (*A. brevirostrum*) appears to have been documented from project area streams (Menhinick 1991). The Trent River and its tributaries are designated as Anadromous Fish Spawning Areas.

Streams within the project area provide riparian and benthic habitat for a variety of amphibians and aquatic reptiles. Ephemeral pools, swamps, and other flooded wetlands provide additional aquatic habitat, especially for breeding amphibians. Common amphibians and reptiles encountered throughout the project area include southern leopard frog (*Rana sphenocephala*), green frog (*Rana clamitans*), and eastern mud turtle (*Kinosternon subrubrum*).

Several species of conspicuous aquatic macroinvertebrate species were observed during stream surveys or other field work. Mollusks documented from project area streams include pointed campeloma (*Campeloma decisum*) (an aquatic snail), fingernail clams (*Sphaerium striatinum* and *S. occidentale*), and freshwater mussels (*Elliptio* spp.). Crustaceans observed in project area streams include grass shrimp (Palaemonidae) and crayfish (Cambaridae). Aquatic insects and insect larvae are common in project area streams.

3.5.3 Water Resources

A *Natural System Report, August 2001* and *Hydraulics Report, October, 1997 and Addendum No. 1, March 2000* were prepared for this study and are on file at the North Carolina Department of Transportation. These reports provide additional detail on the water resources identified in the study area.

Best Usage Classifications. The NC Department of Environment and Natural Resources (NCDENR), Division of Water Quality (DWQ) classifies stream segments according to their